What is claimed is:

1   1.   A method comprising:

2   writing a first variable length packet to a first

3 portion of a buffer; and

4   writing a second variable length packet to a second

5 portion of the buffer while writing the first variable

6 length packet.

1   2.   The method of claim 1, further comprising pre-

2 rotating the first variable length packet to align the

3 first variable length packet with a previous packet.

1   3.   The method of claim 1, further comprising

2 dynamically determining the location of the first portion

3 based on a position of a previous packet and a size of the

4 first variable length packet.

1   4.   The method of claim 1, further comprising padding

2 the first variable length packet to form a first output

3 packet.

1   5.   The method of claim 4, further comprising

2 outputting the first output packet when a next variable

3 length packet is received by the buffer.

1   6.   The method of claim 1, wherein the first portion
2 is at any location of the buffer.

1   7.   A method comprising:
2   writing a first packet to a first portion of a data
3 array, the first portion selectable based on a position of
4 a previous packet and a size of the first packet.

1   8.   The method of claim 7, further comprising writing
2 a second packet to a second portion of the buffer while
3 writing the first packet.

1   9.   The method of claim 7, wherein the first portion
2 is at any location of the data array.

1   10. The method of claim 7, further comprising pre-
2 rotating the first packet to align the first packet with
3 the previous packet.

1   11. The method of claim 7, further comprising padding
2 the first packet to form a first output packet.

1   12. An apparatus comprising:
2   a decoder to set a packet size of a variable length
3 packet, the decoder having n inputs and m outputs, the

4 decoder to select how many of the m outputs are active
5 based on the n inputs.

1   13.   The apparatus of claim 12, further comprising a
2 data array coupled to the decoder to store the variable
3 length packet.

1   14.   The apparatus of claim 13, wherein the decoder
2 comprises a thermometer decoder coupled to a shifter.

1   15.   The apparatus of claim 13, further comprising a
2 shifter coupled to the data array to rotate the variable
3 length packet prior to entry in the data array.

1   16.   An article comprising a machine-readable storage
2 medium containing instructions that if executed enable a
3 system to:
4   write a first variable length packet to a first
5 portion of a buffer; and
6   write a second variable length packet to a second
7 portion of the buffer while the first variable length
8 packet is written.

1   17.   The article of claim 16, further comprising
2 instructions that if executed enable the system to pre-

3   rotate the first variable length packet to align the first

4   variable length packet with a previous packet.

1   18.   The article of claim 16, further comprising

2   instructions that if executed enable the system to

3   determine the location of the first portion based on a

4   position of a previous packet and a size of the first

5   variable length packet.

1   19.   The article of claim 18, wherein the location of

2   the first portion may be at any location in the buffer.

1   20.   A system comprising:

2   a switch fabric; and

3   a storage buffer coupled to the switch fabric to store

4   a variable length packet, the storage buffer having a

5   decoder to set a packet size of the variable length packet.

1   21.   The system of claim 20, further comprising a

2   media access controller coupled to the storage buffer.

1   22.   The system of claim 20, further comprising a

2   system packet interface coupled between a network processor

3   and the storage buffer.

1   23.   The system of claim 22, further comprising a
2 system packet interface bus coupled between the network
3 processor and the system packet interface.

1   24.   The system of claim 20, wherein the decoder
2 comprises n inputs and m outputs, the decoder to select how
3 many of the m outputs are active based on the n inputs.

1   25.   The system of claim 24, wherein the m outputs
2 determine a size of the variable length packet.

1   26.   The system of claim 24, wherein m equals 2^n-1.

1   27.   An apparatus comprising:
2   a register file to store first and second variable
3 length packets, the register file having a plurality of
4 cells to receive portions of the first and second variable
5 length packets from a first input or a second input; and
6   a multiplexer coupled to the register file to route
7 the portions to the cells.

1   28.   The apparatus of claim 27, further comprising a
2 select multiplexer coupled to the multiplexer to select
3 whether a portion of the first variable length packet or
4 the second variable length packet is to be stored in the
5 cells.

1   29.   The apparatus of claim 27, wherein the plurality
2   of cells comprises sixteen cells, each adapted to store a
3   portion of the first variable length packet or the second
4   variable length packet.

1   30.   The apparatus of claim 27, further comprising a
2   shifter coupled to the first input to rotate the first
3   variable length packet prior to entry in the register file.